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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,894	03/23/2004	Larry S. Eoff	2001-IP-005267U1P2	2392
71407	7590	07/10/2009	EXAMINER	
ROBERT A. KENT P.O. BOX 1431 DUNCAN, OK 73536			FIGUEROA, JOHN J	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			07/10/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ROBERT.KENT1@HALLIBURTON.COM  
Tammy.Knight@Halliburton.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/806,894	<b>Applicant(s)</b> EOFF ET AL.	
	<b>Examiner</b> John J. Figueroa	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 11-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/15/2008; 01/13/2009; 04/17/2009; 05/05/2009;</u> | 6) <input type="checkbox"/> Other: _____  |

05/27/2009; 06/24/20099



## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. Receipt is acknowledged of a request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e) and a submission (amendment), filed on April 17, 2009. The request has been deemed proper and this application has been hereby examined in view of said amendment.

### ***Response to Amendment***

2. The 35 U.S.C. §102(b) rejection of claims 1-6 and 8-10 as anticipated by U.S. Patent Application Publication No. 2003/0013871 A1 to Mallon et al. (hereinafter 'Mallon') has been maintained for the same reasons previously made of record in items 2 and 3 on page 2 of the Final Office Action dated December 17, 2008 (hereinafter 'FOA').

### ***Election/Restrictions***

3. Claims 7 and 11-38 had been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim, in accordance with the Restriction Requirement in item 1 of the Office Action of July 3, 2006. This restriction had been made final in the previous office action.

4. Accordingly, claims 1-6 and 8-10 have been examined in the instant action and claims 7 and 11-38 remain withdrawn.

***Claim Rejections - 35 USC § 102***

**5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.**

6. Claims 1-6 and 8-10, as amended, are rejected under 35 U.S.C. 102(b) as being anticipated by Mallon.

As discussed previously in prior actions, Mallon discloses preparing a modified cellulose/polysaccharide ether by subjecting the cellulose ether sodium salt to electrodialysis and reacting with a base or salt to form a product that has few impurities and is thereby low polluting; wherein the base or salt can be, e.g., a chloride of up to three carbons; and wherein the polysaccharide starting material can be chitosan or chitin. (Page 1, [0004] to [0008] and [0018]; page 2, [0024]; page 4, [0060]) The molecular weight of the for the polysaccharide is between 10,000 and 2 million grams/mol (page 4, [0061]) and a particular derivatizing agent for modifying the polysaccharide are alkyl halides, such as ethyl chloride or methyl chloride (page 4, [0062]).

Mallon further discloses that a typical industrial application for the polysaccharide ether is in oil field drilling and fracturing processes, wherein the modified polysaccharide can serve as a viscosity adjuster or suspension aid (page 6, [0076]) and wherein said polysaccharide can be present in a composition from about 0.05 to 3% by weight (page

6, [0080]). Accordingly, because Mallon is disclosing adding to a drilling process in a subterranean formation the same compound (alkylated chitosan) as the elected species for the hydrophobically-modified polymer recited in the claims (which would, of course, inherently have the same physical properties), Mallon is thereby disclosing a method of drilling in a subterranean formation by adding an RPM polymer compound in accordance with the instant claims with sufficient specificity.

Although Mallon may not explicitly disclose “allowing” the relative permeability modifier to “attach” onto the surface, because Mallon discloses treating a formation with the same relative permeability modifier (RPM) polymer compound as encompassed by the instant claims (which would possess the same physical properties/effects), then the method of drilling disclosed in Mallon must inherently “allow” the RPM polymer compound to “attach” to a portion of the surface of the subterranean formation” upon the addition of said RPM polymer compound in Mallon’s method of drilling in a formation.

Moreover, in regard to the new limitation inserted in the claims by amendment in the response to FOA filed by Applicant with RCE on April 17, 2009 limiting the water soluble polymer to having a hydrophobic chain of about 4 to about 22 carbons, Mallon further discloses that particular derivatizing agents suitable for use in its method, such as alkyl halides or alkylene oxides, can comprise from about 2 to 24, preferably from about 2 to 5 carbon atoms per molecule, wherein the amount of ether substitution is typically from about 1.5 to 6 of ether substituent per mole of polysaccharide ether. (Page 4, [0062]) The polysaccharide ethers can be substituted with one or more desired cationic, anionic and/or *hydrophobic* substituents; wherein the *hydrophobic*

substituent can comprise *alkyl*, alkene, aryl-alkene or aryl-alkyl groups having about 8 to 24 carbon atoms per molecule; and wherein the substitution level of each such substituent on the polysaccharide ether is typically from about 0.001 to 0.1 moles of substituent per mole of polysaccharide ether. (Page 4, [0063])

Thus, the instant claims, as amended, remain anticipated by Mallon.

### ***Response to Arguments***

#### ***The 35 U.S.C. §102 Rejection over Mallon (items 2 and 3 of FOA)***

7. Applicant's arguments in Response with respect to the 35 U.S.C. 102(b) rejection of claims 1-6 and 8-10 as anticipated by Mallon have been fully considered but deemed unpersuasive.

Applicant's primary argument in Response traversing the captioned rejection is that Mallon allegedly does not disclose the hydrophobic group to contain the number of carbons in an alkyl side chain as the water-soluble polymer of the present invention. However, as discussed above in the present action, Mallon expressly discloses its hydrophobically-modified water-soluble hydrophilic polymer (cellulose backbone/ether substituent) to be modified with an alkyl halide/oxide compound having 8 to 24 carbons. Accordingly, Mallon is disclosing hydrophobically-modified water-soluble hydrophilic polymer containing an alkyl side chain having a number of carbons within the range recited in independent claim 1, as amended.

Thus, the instant claims, as amended, remain anticipated by Mallon.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571)272-8916. The examiner can normally be reached on Monday-Thursday 8:00-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James J. Seidleck/  
Supervisory Patent Examiner, Art Unit 1796

JJF/JS